

Remarks

Claims 1 and 42-84 are pending in the subject application. As an initial matter, Applicants gratefully acknowledge the Examiner's withdrawal of the rejections under 35 USC §101 and 35 USC §102(b). By this Amendment, Applicants have amended claims 1, 42-44, 47-49, 55-59, 66-70, and 79-83, canceled claims 50-54, and added new claims 85-92. Support for the new claims and amendments can be found throughout the subject specification and in the claims as originally filed. Entry and consideration of the new claims and amendments presented herein is respectfully requested. Accordingly, claims 1, 42-49, and 55-92 are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

Claims 1, 42-51, and 53-84 are rejected under 35 USC §112, first paragraph, as nonenabled by the subject specification and as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner acknowledges that the specification is enabled and provides written description for polynucleotides that encode mutant ADP-glucose pyrophosphorylase (AGP) large subunits from maize. However, the Examiner asserts that the subject specification does not enable and does not provide written description for polynucleotides encoding heat stable mutants of AGP large subunit from plants other than maize.

Applicants respectfully assert that the claims are enabled by the subject specification and that there is adequate written description in the subject specification to convey to the ordinarily skilled artisan that they had possession of the claimed invention. However, in order to expedite prosecution of the subject invention, Applicants have amended claim 1 so that the claim now recites a polynucleotide encoding a mutant maize ADP-glucose pyrophosphorylase large subunit. As noted above, the Examiner has acknowledged that there is enablement and written description for polynucleotides encoding the large subunit of maize AGP. The method claims and the plant and plant tissue composition claims, by reference to the polynucleotide of claim 1, effectively recite that the polynucleotide encodes a mutant polypeptide of maize AGP. In addition, Applicants have canceled claims 50-54, which are directed to certain polynucleotides that encode heat stable AGP large subunit from various other plants. Applicants respectfully assert that an ordinarily skilled

artisan, having the benefit of the teachings of the subject application, can readily practice the claimed invention without resort to undue experimentation. Accordingly, reconsideration and withdrawal of the rejections under 35 USC §112, first paragraph, is respectfully requested.

Claims 1 and 42-84 are rejected under 35 USC §112, second paragraph, as indefinite. Applicants respectfully submit that the claims are definite. In regard to the Examiner's assertion that the recitation of "biologically active fragment" renders claim 1 indefinite, Applicants have amended the claim to delete reference to "biologically-active." The claim encompasses those fragments of the full-length mutant polypeptide, that when expressed to form a mutant AGP enzyme, the mutant enzyme exhibits increased heat stability relative to wild type enzyme. An ordinarily skilled artisan can readily prepare polynucleotides encoding fragments of the mutant large subunit of AGP and express the encoded fragment in a system to form the AGP enzyme and determine if the mutant enzyme exhibits increased heat stability. Also under this rejection, the Examiner asserts that the recitation of "amino acid corresponding to position(s)" renders claims 42-44, 47-49, 55-59, 66-70, and 79-83 indefinite. The Examiner asserts that it is unclear what it means for an amino acid to correspond to a position. By this Amendment, Applicants have amended claims 42-44, 47-49, 55-59, 66-70, and 79-83 to indicate a specific amino acid located at a specific position in the amino acid sequence of the wild type large subunit of ADP-glucose pyrophosphorylase is replaced by another amino acid. Accordingly, reconsideration and withdrawal of the rejection under 35 USC §112, second paragraph, is respectfully requested.

Claims 1, 42, and 50-52 are rejected under the judicially created doctrine of "obviousness-type" double patenting over claim 1 of U.S. Patent No. 6,069,300. In addition, claims 1, 42, 50-52, 58-63, 69, 70, 72-75, 78, 82, and 83 are rejected under the judicially created doctrine of "obviousness-type" double patenting over claims 1-3, 20-30, and 48-54 of U.S. Patent No. 6,403,863. Applicants respectfully submit that the claims in the subject application are not obvious over the cited patents. However, in order to expedite prosecution of the subject application, Applicants have submitted a Terminal Disclaimer with this Amendment that obviates these rejections. Accordingly, reconsideration and withdrawal of the "obviousness-type" double patenting rejections is respectfully requested.

It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicants' agreement with or acquiescence in the Examiner's position.

In view of the foregoing remarks and amendments to the claims, Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



Doran R. Pace  
Patent Attorney  
Registration No. 38,261  
Phone No.: 352-375-8100  
Fax No.: 352-372-5800  
Address: 2421 N.W. 41st Street, Suite A-1  
Gainesville, FL 32606-6669

DRP/sl

Attachment: Terminal Disclaimer